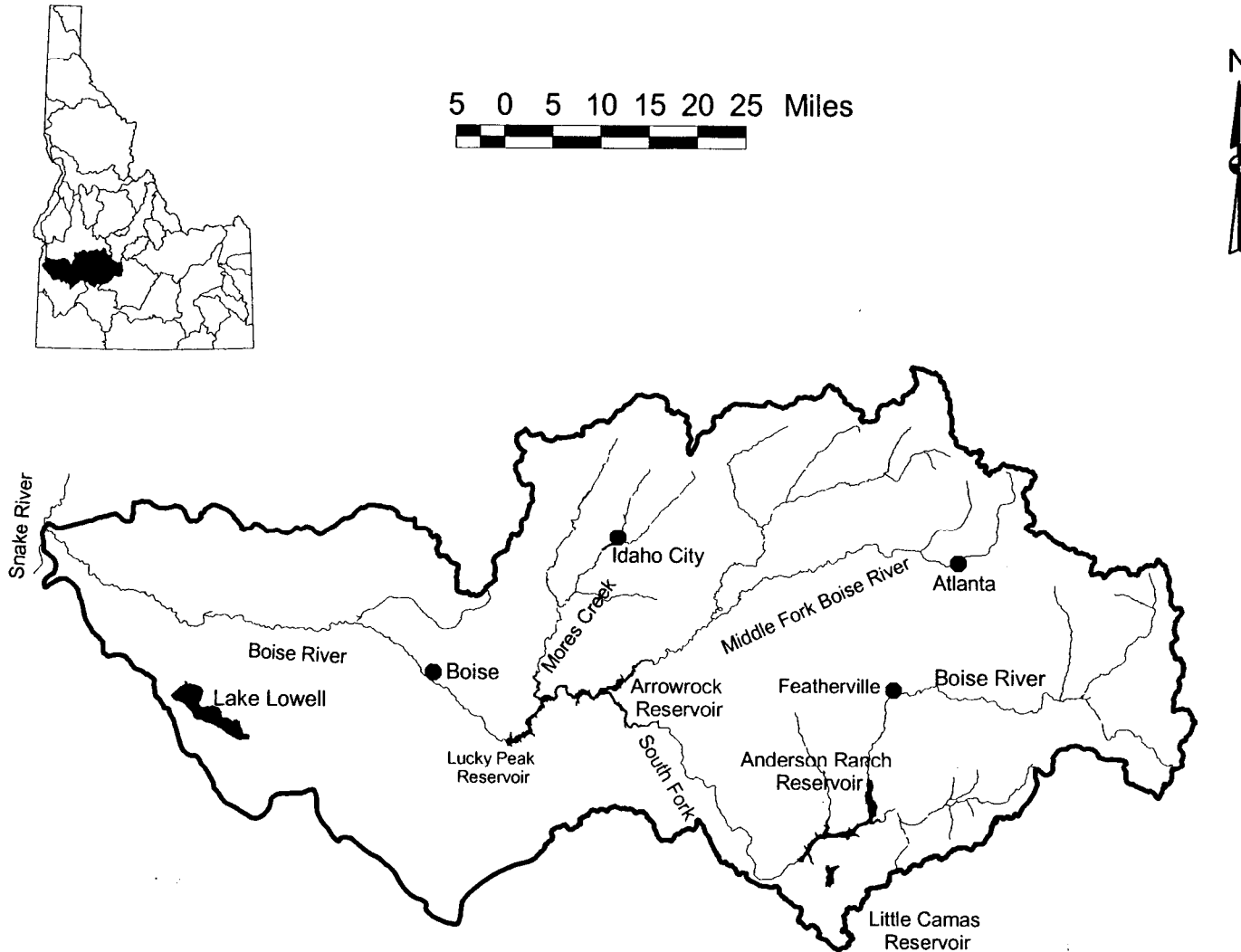


# Boise River Drainage



## 20. BOISE RIVER DRAINAGE

### A. Overview

The Boise River basin lies in southwestern Idaho and contains about 4,100 square miles of land. The headwaters of the Boise River originate in the Sawtooth Mountains at elevations in excess of 10,000 ft. It flows in a westerly direction for about 200 miles before emptying into the Snake River near Parma at an elevation of 2,100 ft. Major tributaries to the Boise River include the North Fork Boise River (382 square miles), the South Fork Boise River (1,314 square miles) and Mores Creek (426 square miles). This basin has an average annual runoff of 2,005,000 acre-feet of water.

The Boise River has three major instream impoundments, Anderson Ranch, Arrowrock and Lucky Peak Reservoirs, and one large off-stream impoundment, Lake Lowell. The four large reservoirs have a combined storage capacity of 1,143,249 acre-feet of water. The Boise River reservoirs supply water storage for irrigation flood control, recreation, hydropower and instream flows.

Because of the wide range in elevations, geographic features and water uses, the Boise River has a great variety of habitat types and fish species. The drainage includes the major population center in the state, has over 250,000 acres of irrigated cropland and some of Idaho's earliest mining, logging and hydroelectric developments. Man caused impacts have severely degraded most habitats over a long period of time creating severe limitation on fishery productivity.

From the mouth of the Boise River upstream to Star, low summer flows and poor water quality limit fishery production. This section of river supports a fair fishery for largemouth bass, smallmouth bass and channel catfish. From Star upstream to Lucky Peak Dam, the river changes from a warmwater to a coldwater fishery. Mountain whitefish make up the bulk of the game fish biomass, with hatchery-reared rainbow trout, wild rainbow trout and brown trout supporting the bulk of the fishing pressure. Upstream from Lucky Peak and Arrowrock reservoirs, rivers and streams contain excellent populations of wild rainbow trout, mountain whitefish and bull trout. Brook trout, redband trout and cutthroat trout occur in some tributary streams. Due to the heavy angling pressure exerted on these streams, catchable-size hatchery rainbow trout supplement wild populations in selected heavy use areas of the streams except for the South Fork Boise River downstream from Anderson Ranch Dam.

The South Fork Boise River between Arrowrock Reservoir and Anderson Ranch Dam was the first designated quality trout stream segment in southwestern Idaho. Wild rainbow trout and mountain whitefish make up the majority of the fish caught in the South Fork. The rainbow trout fishery there is managed with limit, size, and tackle restrictions. In 1978, anglers caught an estimated 19,150 rainbow trout and released 18,059 (94%). In 1988, anglers caught an estimated 18,400 rainbow trout and released 99%.

A 1988 creel survey of the South Fork Boise River between Featherville and Big Smoky Creek estimated effort at 365 hours/mile. Hatchery rainbow trout made up over 80% of fish checked in anglers creels but the overall return total creel rate was only 21%, indicating hatchery fish needed to be more efficiently utilized. Hatchery fish are now

stocked only at campgrounds in the lower portion of this area and the upper section above Beaver Creek is being managed as a wild trout area.

Popular reservoir fishing within the Boise River drainage exists at Lake Lowell, Lucky Peak, Arrowrock, Anderson Ranch and Little Camas. The Lake Lowell fishery consists primarily of largemouth bass, smallmouth bass, yellow perch, black crappie, bullhead, bluegill, and channel catfish. Lucky Peak and Anderson Ranch reservoirs provide "two-story" fisheries with smallmouth bass occupying the warm, inshore waters and rainbow trout and kokanee dominating the cold, mid-water fishery. The rainbow trout fishery in these reservoirs depends heavily on stocked catchable or fingerling size fish. Little Camas and Arrowrock reservoirs also provide excellent fishing for rainbow trout stocked as catchables and/or fingerlings. Neither of these two reservoirs have a conservation pool and both have a history of total water evacuation.

Good spawning conditions in tributary streams provide a continuous supply of kokanee in Anderson Ranch Reservoir, but maintenance stocking is required in Lucky Peak and Arrowrock. At Anderson Ranch Reservoir, one of the more popular kokanee fisheries in southern Idaho, anglers harvested an estimated 40,000+ kokanee in 1979, 34,000 in 1985, and 29,000 in 1997. Kokanee populations in the reservoir have fluctuated significantly from 1983 through 1999 due to extreme high and low water conditions in the drainage and overstocking of fall chinook salmon in the early 1980s. Ongoing studies of kokanee populations are being used to develop models to reduce population fluctuations through stocking in low number years. Weirs to limit kokanee spawners and low numbers of fall chinook salmon will be considered to crop excess kokanee numbers and to provide a trophy fishery. Fall chinook salmon will only be used if they are not considered a threat to bull trout.

Alpine lakes within the Boise River drainage provide anglers with a variety of fishing opportunity. Rainbow trout, cutthroat trout or brook trout are found in many lakes. Arctic grayling and golden trout provide fisheries in a few alpine locations. There are 224 alpine lakes in the Boise drainage. Most of these lakes are too small to support a fishery. The Department presently stocks 68 of the alpine lakes in the Boise River system.

## B. Objectives and Programs

1. Objective: Provide a diversity of fishing opportunities within the Boise River drainage.

Program: Zone the stream areas to concentrate hatchery catchable stocking in the locations where the highest return to the creel will occur.

Program: Manage for wild trout where habitat and fish populations will sustain acceptable fisheries.

Program: Manage for increase catch rates and fish size in selected stream reaches with quality and trophy trout regulations.

Program: Manage warmwater fisheries to provide a wide variety of sizes and species readily available to the large population of the Treasure Valley area.

Program: Develop ponds in the upper South Fork Boise River and Smoky Creek drainages for planting catchable rainbow trout.

2. Objective: Seek better land management practices that significantly improve fishery habitats.

Program: Provide sediment objectives/standards to land management agencies where sediment is the limiting factor in aquatic habitats.

Program: Provide riparian vegetation objectives to land management agencies where grazing, development, or other activities have degraded riparian zones.

3. Objective: Monitor effects of land management activities, fishery regulations, and other fishery management activities on fish habitat and fish populations.

Program: Collect common data base information on habitat and fish populations throughout the Boise River drainage.

Program: Examine changes and trends in common data base information and attempt to determine causes for any changes that are noted.

4. Objective: Seek improved reservoir management and stream flows.

Program: Pursue development of a minimum pool in Arrowrock Reservoir.

Program: Study water management at Lake Lowell to determine the relationship between fish production and water levels.

Program: Monitor Arrowrock Dam valve replacement project. Maintain involvement in multi-agency fishery mitigation team.

Program: Determine which water levels in Anderson Ranch Reservoir result in downstream losses of bull trout. Develop reservoir management plans to avoid or mitigate losses.

5. Objective: Improve distribution and population status of bull trout.

Program: Identify barriers for removal to connect all possible bull trout habitat.

Program: Continue angler educational program about bull trout in the drainage.

Program: Continue to define and monitor populations of bull trout.

Program: Continue to coordinate with the US Bureau of Reclamation on bull trout studies in Arrow Rock Reservoir and upper Boise River drainage.

6. Objective: Create local small fishing ponds in cooperation with local city or county governments.

Program: Utilize federal aid funds for "seed monies" to construct small local ponds where there is demand and appropriate sites in the drainage.

7. Objective: Provide a diversity of alpine lake fishing opportunities.

Program: Investigate alpine lakes for opportunities to create trophy management.

Drainage: BOISE RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Mouth to Star	34/	Mixed	Rainbow trout Mountain whitefish Largemouth bass Smallmouth bass Channel catfish Black crappie	General	Work with state and federal regulatory agencies to improve water quality and habitat condition. Evaluate fish population, species composition, and size structure. Determine angler satisfaction with current fishery.
Star to Lucky Peak	25/	Coldwater	Rainbow trout  Steelhead Brown trout Mountain whitefish	Put-and-take trout	Work with state and federal regulatory agencies to improve water quality and habitat condition. Stock with rainbow trout, and steelhead seasonally if available. Stock catchable rainbow trout year-round. Manage for high density of anglers.
Warm Springs Golf Course to Barber Dam	4/	Coldwater	Rainbow trout Brown trout Mountain whitefish	Quality	Evaluate natural production potential with the 14-inch minimum size limit.
Mores Creek		Coldwater	Rainbow trout Mountain whitefish	General	Work with regulatory agencies to enhance habitat. Stock with catchable rainbow trout.
Boise River Drains	92/	Coldwater	Rainbow trout Brown trout Mountain whitefish	General	Work with communities and regulatory agencies to improve water quality and habitat conditions. Improve angler access.
Loggers Creek	2/	Coldwater	Rainbow trout Brown trout Mountain whitefish	General	Manage as a nursery stream to provide catchable size fish to Boise River.
Middle Fork Boise River from Arrowrock Reservoir to North Fork Boise River	11/	Coldwater	Rainbow trout  Mountain whitefish	Put-and-take trout	Stock with catchable rainbow trout following high water period until Labor Day. Evaluate return to the creel of hatchery trout. Monitor angler use and satisfaction with current fishery.
			Bull trout	Conservation	Closed to harvest.

From North Fork to Atlanta Power Dam	32/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Quality General	Manage for high catch rates on wild fish.
			Mountain whitefish Bull trout	Conservation	Closed to harvest.
From Atlanta Power Dam to Sawtooth Wilderness Boundary	4/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Put-and-take trout General	Stock with sterile catchable rainbow trout following high water period until Labor Day. Evaluate return of hatchery trout. Develop catch-out pond for planting catchables to avoid competition with wild trout.
			Mountain whitefish Bull trout	Conservation	Maintain and operate the Kirby Dam fish ladder. Document fish passage.
Upstream of Sawtooth Wilderness Boundary and all tributaries	30/	Coldwater	Rainbow trout	Wild	Manage for high catch rates and low angler densities. Manage for wild fish.
			Brook trout Cutthroat trout Mountain whitefish Bull trout	Conservation	Closed to harvest.
South Fork Boise River from Arrowrock Reservoir to Neal Bridge		Coldwater	Rainbow trout	General	Manage for harvest opportunity for stream trout and mountain whitefish.
			Mountain whitefish Bull trout	Conservation	Closed to harvest.
South Fork Boise River from Neal Bridge to Anderson Ranch Dam	10/	Coldwater	Rainbow trout Mountain whitefish	Trophy	Manage for high catch rates for large fish. Conduct creel survey. Collect population estimate and stock structure semi-annually.
			Bull trout	Conservation	Closed to harvest.

South Fork Boise River from Anderson Ranch Reservoir to Beaver Creek	26/	Coldwater	Rainbow trout	Put-and-take trout	Good quality habitat with wild trout potential. High accessibility and campgrounds give potential for hatchery return rates of >30%. If fall chinook salmon are reintroduced, monitor and allow harvest on spawning run. Construct kokanee weir at Pine.
			Mountain whitefish Kokanee	General	
			Fall chinook salmon	Trophy	
			Bull trout	Conservation	
South Fork Boise River from Beaver Creek to Big Smoky Creek	10/	Coldwater	Rainbow trout	Quality	Good quality habitat for wild trout although growth is slow due to the low stream productivity. Manage for quality >14-inch wild rainbow trout to increase natural reproduction.
			Mountain whitefish Kokanee	General	
			Bull trout	Conservation	
South Fork Boise River from Big Smoky Creek to headwaters	15/	Coldwater	Rainbow trout	Put-and-take trout	Good quality habitat, however low natural stream productivity limits wild trout growth for acceptable size rainbow. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout.
			Mountain whitefish Kokanee	General	
			Bull trout	Conservation	
Big Smoky Creek from mouth to Calf Creek	4/	Coldwater	Rainbow trout	Put-and-take trout	Good quality habitat with wild trout potential. High accessibility gives potential for >30% return on fish. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout.
			Mountain whitefish Kokanee	General	
			Bull trout	Conservation	
Big Smoky Creek from Calf Creek to headwaters	15/	Coldwater	Rainbow trout	Wild	Emphasize bull trout, self-sustaining rainbow trout populations. Maintain limited harvest opportunity.
			Mountain whitefish		
			Bull trout	Conservation	
Little Smoky Creek	20/	Coldwater	Rainbow trout	Put-and-take trout	Evaluate hatchery program. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout.
			Bull trout	Conservation	



All other streams in South Fork Boise River drainage upstream from Anderson Ranch Reservoir	277/	Coldwater	Rainbow trout	Wild	Investigate potentially unique native rainbow trout and ensure survival. Maintain naturally reproducing populations and harvest opportunity.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.
North Fork Boise River from mouth to Rabbit Creek	7/	Coldwater	Rainbow trout	Wild	Manage for high catch rates (3 fish/hour) and low angler densities.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.
Rabbit Creek to Deer Park (Hunter Creek)	13/	Coldwater	Rainbow trout	Put-and-take trout	Manage for high yield and moderate angler densities.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.
Deer Park to headwaters and all tributaries	41/	Coldwater	Rainbow trout	General	Manage for high catch rates (3 fish/hr) and low angler densities.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.
Lucky Peak Reservoir	/2,850	Mixed	Smallmouth bass	General	Evaluate status of smallmouth bass fishery. Provide an attractive kokanee fishery for large fish. Investigate feasibility of providing a trout fishery by stocking large numbers of fingerling rainbow trout in Lucky Peak Reservoir to avoid excessive competition for plankton and jeopardizing quality of kokanee fishery. Continue to stock catchable rainbow trout. Closed to harvest.
			Yellow perch		
			Rainbow trout	Conservation	
Arrowrock Reservoir	/4,000	Mixed	Kokanee		
			Bull trout	Conservation	
			Smallmouth bass	General	Seek minimum pool through federal government. Stock annually with fingerling rainbow trout and catchable trout. Monitor fishery impacts of Arrowrock Dam valve replacement project.
			Yellow perch		
			Rainbow trout		
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest

Lake Lowell	/10,000	Mixed	Largemouth bass Smallmouth bass  Channel catfish Bluegill Yellow perch Black crappie Pumpkinseed Rainbow trout Cutthroat trout	Quality  General	Determine angler use and harvest rates. Manage bass with primary emphasis on quality fishery. Investigate feasibility of planting Lahontan cutthroat trout. Monitor panfish harvest.
Anderson Ranch Reservoir	/4,740	Mixed	Rainbow trout Mountain whitefish Kokanee Yellow perch Smallmouth bass  Fall chinook salmon Bull trout	General  Trophy Conservation	Emphasize kokanee. Continue developing model to evaluate potential. Goal of 1.0 kokanee/hour with mean size of 12 to 14 inches if productivity allows. Consider fall chinook salmon if kokanee numbers are excessive. Improve trout fishing through hatchery program and public awareness. Maintain smallmouth bass to diversify fishing opportunity.  Closed to harvest.
Little Camas Reservoir	/1,455	Mixed	Rainbow trout Smallmouth bass	General	Use fall fingerling plants to improve carryover in high water years.
Mountain Home Reservoir		Mixed	Rainbow trout Largemouth bass	General	Stock with rainbow trout when water levels allow. Work with irrigation companies to leave conservation pool so trout can overwinter.
Indian Creek Reservoir	195	Warmwater	Largemouth bass Bluegill	Quality	Monitor catch-rates. Sample periodically.
Featherville dredge ponds	/3	Coldwater	Rainbow trout	Put-and-take trout	Continue stocking hatchery rainbow trout. Provide 1.0 fish/hour.
Big Trinity Lake	/25	Coldwater	Rainbow trout Cutthroat trout	Put-and-take trout	Accessible by road. Stock annually with catchables. Stock cutthroat trout fingerlings for diversity.
Little Trinity Lake	/3	Coldwater	Rainbow trout Cutthroat trout	Put-and -take trout	Accessible by road. Stock annually with catchables. Stock cutthroat trout fingerlings for diversity.
Other alpine lakes	/801	Coldwater	Rainbow trout Cutthroat trout Golden trout Brook trout Arctic grayling	General	Put-and-grow for trout and char.